REMARKS

In the Office Action, claims 1-57 were rejected. By the present response, claim 99 is added. Reconsideration and allowance of all pending claims are requested.

Rejections Under 35 U.S.C. §103

The Office Action summarizes claims 1-6, 9, 13-19, 22-27, 29, 31-38, 42-48, 51, 52 and 54-57 as rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,339,281 (hereinafter "Lee") in view of the U.S. Patent Application Publication No. 2004/0067602 (hereinafter "Jin").

With regard to independent claims 1 and 32, the Examiner stated that Lee teaches a method for fabricating a triode carbon nanotube field emitter array. The Examiner cited various passages from Lee in support of this position.

Even a combination of Lee and Jin fails to disclose the creation of an in-situ electrical field in the substrate.

Independent claim 1 recites a method for fabricating a self-aligned gated carbon nanotube field emitter structure. The method includes, *inter alia*, applying an electrical potential to the substrate and the conductor layer. The electrical potential generates a plurality of electrical field lines that are deflected around the surface of the base layer structure. The plurality of electrical field lines have a strength that is greatest in a direction substantially perpendicular to the surface of the substrate.

Similarly, the independent claim 32 recites a method for fabricating a triode carbon nanotube field emitter structure. Similarly, the method includes, *inter alia*, applying an electrical potential to the cathode electrode and the gate electrode.

The Examiner relied upon Jin to teach utilizing an electric potential to cause a field to form at the substrate such that the carbon nanotubes grow in a direction

perpendicular to the surface of the substrate. The Examiner cited passages from Jin to support his position.

Applicants have closely considered the cited passage and, indeed, the Jin patent as a whole. The cited passage from Jin, and the entire reference, do not support the Examiner's position, however. For example, the passage cited by the Examiner from Jin at paragraph 50, teaches applying an electric field *globally or intrinsically* during the growth of the nanowires and does not teach or even suggest applying an electric potential between a substrate and a conductive layer. The cited passage reads:

> The vertical alignment of the nanowire during growth can be enhanced by an electrical field globally applied along the vertical direction (perpendicular to the substrate) or by an intrinsically present electrical field, as is used in microwave plasma CVD growth.

Therefore, the combination of Lee and Jin would not teach applying an electric potential in-situ, that is, between a substrate and a conductive layer. Even if Lee and Jin could be combined, the combination would not logically teach a person skilled in the art to apply the electric potential to the substrate. On the contrary, the combination would more readily teach placing the *entire structure* of Lee in the CVD chamber of Jin, subjected to an external electric field, or to the electric field present inside the CVD chamber. There is no motivation for, and the references do not teach, creating a field *within the device itself* by applying an electrical potential to its own layers.

In view of the arguments present above, Applicants submit that a *prima facie* case of obviousness has not been established, and request that the rejection of claims 1 and 32 under 35 U.S.C. §103(a) be withdrawn.

Claims 2-31 and 33-57 depend directly or indirectly from independent claims 1 and 32. Accordingly, Applicants submit that these claims are allowable by virtue of their

dependency from an allowable base claim, as well as for the subject matter they separately recite.

New Independent Claim 99

By the present response, Applicants submit new independent claim 99. Claim 99 recites subject matter similar to that of claims 1 and 32. Consequently, claim 99 is believed to be in condition for allowance for at least the reasons summarized above with respect to claims 1 and 32.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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PS

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